

Amendment and Response Under 37 C.F.R. 1.116

Applicant: Robert-Christian Hagen et al.

Serial No.: 10/598,483

Filed: August 7, 2008

Docket No.: I431.175.101/FIN592PCT/US

Title: BASE SEMICONDUCTOR COMPONENT FOR A SEMICONDUCTOR COMPONENT STACK AND METHOD FOR THE PRODUCTION THEREOF

IN THE CLAIMS

Please cancel claims 15, 23, 25, 29, and 34 without prejudice.

Please amend claims 16, 18-22, 24, 26, and 27 as follows:

1.-14. (Cancelled)

15. (Cancelled)

16. (Currently Amended) The base semiconductor component of ~~claim 15~~claim 19, wherein the semiconductor chip has flip-chip contacts which are connected via wiring lines to the contact pads, and via wiring lines on the upper side and through contacts to the underside of the wiring substrate, and also via wiring lines on the underside of the wiring substrate to external contact areas, the external contact areas having the external contacts.

17. (Previously Presented) The base semiconductor component of claim 16, wherein the external contacts have solder balls and are arranged on the underside of the wiring substrate in a matrix.

18. (Currently Amended) The base semiconductor component of ~~claim 15~~claim 19, wherein the interconnection film is arranged on a rear side of the semiconductor chip.

19. (Currently Amended) ~~The base semiconductor component of claim 15, further comprising~~A base semiconductor component for a semiconductor component stack comprising:
a semiconductor chip arranged on a stiff wiring substrate, wherein an active upper side of the semiconductor chip faces toward the wiring substrate, the wiring substrate having contact pads on its upper side in edge regions and external contacts of the base semiconductor component on its underside opposite to the semiconductor chip;

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contact areas of an integrated circuit of the active upper side of the semiconductor chip, the external contacts, and the contact pads are electrically connected to one another via wiring lines and through contacts of the wiring substrate;

a deformable interconnection film defines an upper side of the base semiconductor component and has a freely accessible arrangement pattern of stack contact areas arranged congruently with respect to external contacts of a semiconductor component to be stacked;

the interconnection film is deformed in its edge regions toward the contact pads of the wiring substrate;

the stack contact areas are electrically connected to the contact pads of the wiring substrate via conductor tracks of the interconnection film; and

a supporting plate arranged between the interconnection film and the semiconductor chip.

20. (Currently Amended) ~~The base semiconductor component of claim 15~~claim 19, wherein the base semiconductor component and the stacked semiconductor component are electrically connected via the stack contact areas of the interconnection film.

21. (Currently Amended) ~~The base semiconductor component of claim 15~~claim 19, wherein the interconnection film has a plurality of mutually insulated layers with conductor tracks.

22. (Currently Amended) ~~The base semiconductor component of claim 15~~claim 19, wherein the semiconductor chip of the base semiconductor component is embedded in a plastics composition.

23. (Cancelled)

24. (Currently Amended) ~~The base semiconductor component as claimed in claim 15~~claim 19, wherein connection locations between contact pads and conductor tracks of the

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interconnection film, in the edge regions of the wiring substrate, are embedded in a plastic covering.

25. (Cancelled)

26. (Currently Amended) ~~The method of claim 25, further including,~~ A method for the production of a base semiconductor component comprising:

producing a stiff wiring carrier with a central semiconductor chip having an active upper side disposed on an upper side of the wiring carrier, the wiring carrier having contact pads in edge regions of the upper side and external contact areas on an underside of the wiring carrier, the external contact areas and the contact pads and also contact areas of an integrated circuit of the semiconductor chip being electrically connected to one another;

producing a deformable interconnection film with stack contact areas on its upper side, which have an arrangement pattern that is congruent with respect to an arrangement pattern of external contacts of a semiconductor component to be stacked, and with conductor tracks on its underside, which are connected to the stack contact areas and extend right into the edge regions of the deformable interconnection film, the conductor tracks having an arrangement pattern that is congruent with respect to the arrangement pattern of the contact pads;

applying the interconnection film by its underside onto the wiring carrier with semiconductor chip; and

deforming the edge sides of the interconnection film with the conductor tracks being connected to the contact pads; and

before the interconnection film is applied onto the wiring carrier, applying a supporting plate onto the underside of the interconnection film.

27. (Currently Amended) ~~The method as claimed in claim 25~~ claim 26, further including,
before the interconnection film is applied, embedding the semiconductor chip in a plastics composition.

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28. (Previously Presented) The method as claimed in claim 26, further including, after the conductor tracks have been connected to the contact pads, embedding the connection locations in a plastic covering.

29. (Cancelled)

30. (Previously Presented) A base semiconductor component for a semiconductor component stack comprising:

a semiconductor chip arranged on a stiff wiring substrate, wherein an active upper side of the semiconductor chip faces toward the wiring substrate, the wiring substrate having contact pads on its upper side in edge regions and external contacts of the base semiconductor component on its underside opposite to the semiconductor chip;

contact areas of an integrated circuit of the active upper side of the semiconductor chip and/or the external contacts together with the contact pads are electrically connected to one another via wiring lines and/or through contacts of the wiring substrate;

a deformable interconnection film defines an upper side of the base semiconductor component and has a freely accessible arrangement pattern of stack contact areas arranged congruently with respect to external contacts of a semiconductor component to be stacked;

the interconnection film is deformed in its edge regions toward the contact pads of the wiring substrate; and

the stack contact areas are electrically connected to the contact pads of the wiring substrate via conductor tracks of the interconnection film, and

wherein the interconnection film is arranged on a rear side of the semiconductor chip, with a supporting plate is arranged between the interconnection film and the semiconductor chip.

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31. (Previously Presented) The base semiconductor component of claim 30, wherein the base semiconductor component and the stacked semiconductor component are electrically connected via the stack contact areas of the interconnection film.

32. (Previously Presented) The base semiconductor component of claim 31, wherein the interconnection film has a plurality of mutually insulated layers with conductor tracks.

33. (Previously Presented) The base semiconductor component of claim 32, wherein the semiconductor chip of the base semiconductor component is embedded in a plastics composition.

34. (Cancelled)